

LETTER TO THE EDITOR

Acute Enteritis in Guinea Pigs Due to *Yersinia enterocolitica*

DEAR SIR:

Recently we have had the opportunity to observe an acute outbreak of *Yersinia enterocolitica* infection in guinea pigs. This problem was brought to our attention by Dr. George Elliott of the Department of Chemistry, University of Guelph.

In experiments designed to determine the amounts of vitamin C incorporated into the leukocytes of the guinea pig, young guinea pigs, which weighed approximately 250 grams were used. During this preconditioning period they were being fed rabbit pellets and water *ad lib*. The ascorbic acid was administered three times per week and the animals were weighed daily. For approximately two weeks they gained weight satisfactorily. Then, over a period of two days, they lost weight dramatically, approximately 50 grams per animal. On clinical examination, they moved with a hopping gait and pain was elicited on abdominal palpation. There was marked depression, anorexia and diarrhea.

One guinea pig was killed and necropsied, and various tissues taken for histopathological, bacteriological and parasitic examination. Macroscopically, the animal appeared to be relatively well hydrated, and had satisfactory fat stores and muscle mass. The stomach was distended with gas

and contained a small quantity of ingesta. Semifluid material was present in the small intestine. The colon and cecum were enlarged, and contained dark brown, fluid, material.

Histopathologically, significant changes were present in the liver, kidney, spleen and the small intestine. In the liver, there was marked vacuolation of hepatocytes. In the kidney, many convoluted tubules were lined with swollen and densely eosinophilic epithelial cells and eosinophilic material was present in a few nephrons. In the spleen, numerous pigment-laden macrophages were present in the red pulp. In the small intestine, there was destruction of enterocytes and leukocytic infiltration in the lamina propria. Included in the cellular infiltrate were relatively large numbers of eosinophils. No intestinal parasites were observed.

Large numbers of *Y. enterocolitica* were isolated in pure culture from the gut. The organism was sensitive to all common antibiotics except lincomycin, cloxacillin and sulphonamides. The bacterial isolate, *Y. enterocolitica*, is considered to be the cause of the disease described in this letter.

The importance of this disease to the practitioner is twofold: (a) as a clinical syndrome in pet or laboratory guinea pigs and (b) as a zoonotic hazard. More than 5 000 cases and five outbreaks of the disease in man have been recorded in Europe. The most common clinical form in humans is acute

mesenteric lymphadenitis, presenting as apparently acute appendicitis. Laparotomy reveals acute ileitis and swollen mesenteric lymph nodes. The disease usually has a benign course.

In Europe and the United States, epizootics of the disease have been recorded in chinchillas with a diarrheic syndrome (1) and in Canada the organism was recovered from apparently normal pigs in an abattoir in Toronto (2). Small rodents appear to be an important reservoir host for *Y. enterocolitica* and spread to man may occur by direct fecal contamination through the oral route. Recommended measures for preventing infection consist simply of the observance of basic food hygiene practices.

Further studies are being carried out on this outbreak and will be reported at length elsewhere.

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References

1. ACHA PN, SZYFRES B. Zoonoses and communicable diseases common to man and animals. Scientific Publication No. 354. Washington: Pan American Health Organization, 1980: 120-124.
2. GREENWOOD JR, FLANIGAN SM, PICKETT MJ, MARTIN WJ. Clinical isolation of *Yersinia enterocolitica*: cold temperature enrichment. J Clin Microbiol 1975; 2: 559-560.

ATTENTION PHOTOGRAPHERS!

Photo '83 carries a deadline of February 28, 1983. Get your camera out and be ready to take advantage of good weather, winter storms, Christmas, etc. Maybe you already have a picture that you feel you would like to enter.

Description of prizes appears on page 263 of the September 1982 journal.

Information and entry forms may be obtained from:

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OYEZ PHOTOGRAPHES!

La date limitée pour le concours Photo '83 est fixée au 28 février 1983. Sortez votre caméra et profitez du beau temps, des tempêtes de l'hiver, des Fêtes, etc. Vous avez peut-être déjà en main une photo que vous aimeriez soumettre.

La liste des prix paraît à la page 301 du numéro de octobre 1982 de la revue.

Des plus amples renseignements et des formulaires d'inscription sont disponibles de

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